

Groupwork on Integration and Approximation

Applied Calculus II, MA 120

Spring 2019

Work with your group to solve the following problems. Make sure each member of your group understands the solution before moving to the next problem.

1. Evaluate the following integrals using integration by parts.

a) $\int_0^2 3x e^{5x} dx$

b) $\int (3x + 1) \sin(2x) dx$

2. Let $f(x) = \ln(1 + x^2)$. Approximate the value of $\int_0^3 f(x) dx$ in two ways.

a) Use six subintervals and the Trapezoidal Rule to approximate the integral.

b) Use six subintervals and Simpson's Rule to approximate the integral.

